

CLAIMS

1. (Currently Amended) A fluid purification system comprising:
 - a fluid handling component first and second evaporator coils, each having a drain pan positioned therebelow;
 - a substrate disposed downstream from the first and second evaporator coils;
 - a photocatalyst on at least one surface of the substrate; and
 - an a first ultraviolet light source mounted positioned and oriented to direct ultraviolet light onto at least one surface of the fluid handling component first evaporator coil and on the photocatalyst on a first portion of the at least one surface of the substrate; and
 - a second ultraviolet light source positioned and oriented to direct ultraviolet light onto at least one surface of the second evaporator coil and on the photocatalyst on a second portion of the at least one surface of the substrate.
2. (Currently Amended) The fluid purification system of claim 1 wherein the at least one surfaces of the fluid handling component first and second evaporator coils and the at least one surface of the substrate are in a fluid flow channel of the fluid purification system.
3. (Currently Amended) The fluid purification system of claim 2 wherein the ultraviolet light source is downstream of the fluid handling component first and second evaporator coils.
4. (Original) The fluid purification system of claim 3 wherein the substrate is downstream of the ultraviolet light source.
5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) The fluid purification system of claim 1 wherein the fluid handling component is a first and second ultraviolet light sources are positioned and oriented to direct ultraviolet light into the drain pans for an the first and second evaporator coils, respectively.

8. (Cancelled)

9. (Original) The fluid purification system of claim 1 installed in an HVAC system.

10-16. (Cancelled)

17. (New) A fluid purification system comprising:

first and second evaporator coils;

a substrate disposed downstream from the first and second evaporator coils;

a photocatalyst on at least one surface of the substrate;

a first ultraviolet light source positioned and oriented to direct ultraviolet light onto at least one surface of the first evaporator coil and on the photocatalyst on a first portion of the at least one surface of the substrate; and

a second ultraviolet light source positioned and oriented to direct ultraviolet light onto at least one surface of the second evaporator coil and on the photocatalyst on a second portion of the at least one surface of the substrate, wherein the first and second evaporator coils are disposed between the first ultraviolet light source and the second ultraviolet light source.

18. (New) The fluid purification system of claim 17 further including a first drain pan below the first evaporator coil, wherein the first ultraviolet light sources is positioned and oriented to direct ultraviolet light into the first drain pan.
19. (New) The fluid purification system of claim 18 further including a second drain pan below the second evaporator coil, wherein the second ultraviolet light sources is positioned and oriented to direct ultraviolet light into the second drain pan.